

WATER QUALITY

CITY OF MORGAN HILL • CONSUMER CONFIDENCE REPORT

OUR GOAL: Meet or Exceed Federal and State Regulations

THE CITY of Morgan Hill is committed to providing the community a safe, reliable supply of excellent quality drinking water that meets or exceeds Federal and State regulations.

This report gives information about the quality of water provided in 2003. It describes where your water comes from, what it contains and how it compares to State standards.

This report contains some limited information regarding testing for perchlorate levels in the city's water wells. More detailed information on perchlorate testing will be reported via press releases, on Morgan Hill's cable television bulletin board (Channel 17), and in regular updates to the several public agency websites (see box at right).

Although much of the information on technical matters is required by State law, we have also provided additional information that you should find useful. ♫

WATER SYSTEM SECURITY

WHILE MORGAN HILL does not have open-air water facilities - and is therefore less vulnerable to certain threats - we have, nonetheless, taken steps to ensure additional security measures. These include enhanced security patrols and secondary remote alarm systems. ♫

Este informe contiene informacion muy importante sobre su agua para beber. Traduzcalo o hable con alguien que lo entienda bien. This report contains important information about your community's water quality. If necessary, please have it translated, or speak with a friend who understands it well.

THE CITY'S PERCHLORATE CHALLENGE

POTENTIAL PERCHLORATE contamination of drinking water supplies in the South Valley, including water supplied by the City of Morgan Hill, is an obvious concern of both the City government and all local residents and businesses. The City aggressively responded to the discovery of perchlorate in the South Valley aquifer by taking the following actions:

- Closing the Tennant Avenue Well that is near the Olin Corporation site until a perchlorate treatment system can be activated;
- Testing all City wells for the presence of perchlorate on a monthly basis;
- Turning off all wells that tested above the then existing State Action Level using the State's mandated testing protocol;
- Installing a perchlorate removal plant at the Nordstrom Well in order to ensure an adequate supply of quality drinking water;
- Cooperating with the Santa Clara Valley Water District, Regional Water Quality Control Board, and State Department of Health Services on approaches to addressing perchlorate; and
- Pursuing recovery of the City's costs associated with perchlorate contamination.

As this report is published, the State is working on establishing a maximum contaminant level (MCL) for perchlorate. Once the MCL is established, which is expected to occur sometime later in 2004, the City will have a firm regulatory standard to meet. In the meantime, the State's Action Level for perchlorate is now set at 6 parts per billion. For additional information on perchlorate including test results, regulatory reports, and the status of cleanup efforts, visit the "What's New" page on the City's web site at www.morganhill.ca.gov.

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PERCHLORATE SURCHARGE IMPOSED

All of the actions described above have added significantly to the City's costs of operating the water system. The City is expected to have spent \$1.4 million on perchlorate-related costs by the end of June 2004 and a total of \$3.2 million by June 2007. These significant costs have threatened the financial stability of the City's water fund. In order to address this potential shortfall, the City has adopted a series of 5% surcharges on water fees. The 5% surcharge is needed solely to pay for the City's perchlorate-related costs. Perchlorate surcharge revenues will be accounted for separately and spent only on perchlorate-related costs. The first 5% surcharge went into effect April 1, 2004 with additional 5% surcharges effective January 1, of 2005, 2006, and 2007.

The need for future surcharges will be evaluated annually. Any amount determined to be in excess of the amount needed shall be refunded to customers. In addition, any repayments the City receives from any source to compensate the City for perchlorate-related costs will be credited to the perchlorate account in the Water Fund and shall also be refunded to customers if the repayments are determined to be in excess of the City's perchlorate-related costs. 💧

A WORD ABOUT CHEMICALS & ORGANISMS

HERE'S A BRIEF description of chemicals and organisms, and how the City of Morgan Hill monitors, tests, and treats for them:

Methyl Tertiary-Butyl Ether (MTBE): Added to gasoline either seasonally or year round in many parts of the United States to increase octane levels and reduce carbon monoxide and ozone levels in the air. In California, it has been added to gasoline since January 1996. The City of Morgan Hill has tested quarterly for MTBE in its 13 wells. No MTBE has been detected.

Lead and Copper Testing: In 1991, the EPA adopted the Lead and Copper Rule which requires all cities, including Morgan Hill, to perform lead and copper testing. The City's public water system does not have detectable lev-

SEE "CHEMICALS", PAGE IV

WATER SOURCES:

MORGAN HILL is located in South Santa Clara County, situated between the Coyote and Llagas underground aquifers. These aquifers are the source of Morgan Hill's water supply.

The City currently operates 13 deep water wells located throughout the City. In 2003, these 13 wells supplied 2,518 million gallons of water for 10,841 homes and businesses in Morgan Hill. After the water comes out of these wells, it is treated with chlorine disinfectant to protect against microbial contaminants.

An assessment of the drinking water sources for the City of Morgan Hill was completed in September of 2002. The ground-water source is considered to be most vulnerable to the following activities associated with contaminants detected in ground water: animal feeding operations, and low density septic systems (occurrence of nitrate in groundwater.)

In addition, the source is considered most vulnerable to these activities, for which no associated contaminant has been detected: irrigated crops, grazing and animal operations and agricultural/irrigation wells, gas stations, dry cleaners, animal feeding operations, repair shops, sewer collection systems and pesticide/fertilizer/petroleum storage.

A copy of the complete assessment is available at the Department of Health Services, Drinking Water Field Operations Branch at 2151 Berkeley Way, Room 458, Berkeley, California and at the City of Morgan Hill Public Works Department at 100 Edes Ct. 💧

WATER QUALITY DATA:

THE TABLE (shown right) lists all the drinking water contaminants detected during the 2003 calendar year.

To ensure that tap water is safe to drink, the California Department of Health Services (DOHS) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Morgan Hill's water is treated in accordance with the Department's regulations.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Unless otherwise noted, the data presented in this table is from testing done over the period January 1 - December 31, 2003. The State allows the City to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Thus, some of the data - though representative of the water quality - is more than a year old. 💧

PARAMETER	DATE TESTED	UNITS	MCL	PHG (MCLG)	GROUNDWATER RANGE OF DETECTION			TYPICAL SOURCE OF CONTAMINANT	EXCEEDED MCL?
					LOW	HIGH	AVG.		
PRIMARY STANDARDS - MANDATED HEALTH RELATED STANDARDS									
CLARITY									
Turbidity	2003	NTU	5	N/A	0.05	0.90	0.50	SOIL RUNOFF	NO
ORGANIC CHEMICALS									
TOTAL TRIHALOMETHANES	QUARTERLY 2003	PPB	100	N/A	ND	7.4	1.1	BY-PRODUCT OF DRINKING WATER CHLORINATION	NO
INORGANIC CHEMICALS									
ASBESTOS	1995	MFL	7	(7)	ND	0.7	0.04	INTERNAL CORROSION OF ASBESTOS CEMENT WATER MAINS; EROSION OF NATURAL DEPOSITS	NO
BARIUM	2001	PPM	1	(2)	ND	0.15	0.05	DISCHARGES OF OIL DRILLING WASTES AND FROM METAL REFINERIES; EROSION OF NATURAL DEPOSITS	NO
CHROMIUM	2001	PPB	50	(100)	4	24	9.5	DISCHARGE FROM STEEL AND PULP MILLS AND CHROME PLATING; EROSION OF NATURAL DEPOSITS	NO
CADMIUM ⁽¹⁾	2001	PPB	5	0.07	ND	1	0.07	INTERNAL CORROSION OF GALVANIZED PIPES; EROSION OF NATURAL DEPOSITS; DISCHARGE FROM ELECTROPLATING AND INDUSTRIAL CHEMICAL FACTORIES, AND FROM METAL REFINERIES; RUNOFF FROM WASTE BATTERIES AND PAINTS	NO
NITRATE (AS NO3)	2003	MG/L	45	45	11	39	20.7	RUNOFF AND LEACHING FROM FERTILIZER USE; LEACHING FROM SEPTIC TANKS AND SEWAGE; EROSION OF NATURAL DEPOSITS	NO
RADIOACTIVE CONTAMINANTS									
GROSS ALPHA ACTIVITY	QUARTERLY 2001	PCi/L	15	N/A	ND	2.75	.34	EROSION OF NATURAL DEPOSITS	NO
SECONDARY STANDARDS - AESTHETIC STANDARDS									
CHLORIDE	2002	MG/L	500	N/A	32	79	54	RUNOFF/LEACHING FROM NATURAL DEPOSITS; SEAWATER INFLUENCES	NO
SULFATE	2002	MG/L	500	N/A	22	49	40	RUNOFF/LEACHING FROM NATURAL DEPOSITS; INDUSTRIAL WASTES	NO
TOTAL DISSOLVED SOLIDS	2002	MG/L	1000	N/A	332	380	345	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NO
IRON	2002	UG/L	300	N/A	ND	215 ⁽²⁾	40	LEACHING FROM NATURAL DEPOSITS; INDUSTRIAL WASTES	NO
SPECIFIC CONDUCTANCE (E.C.)	2001	UMHO/CM	1,600	N/A	500	680	592	SUBSTANCES THAT FORM IONS WHEN IN WATER; SEAWATER INFLUENCES	NO
COLOR	2002	UNITS	15	N/A	ND	5	.77	NATURALLY - OCCURRING ORGANIC MATERIALS	NO
ODOR—THRESHOLD	2002	TON	3	N/A	1	1	1	NATURALLY - OCCURRING ORGANIC MATERIALS	NO
SODIUM	2002	PPM	NS	N/A	18	39	25	“SODIUM” REFERS TO THE SALT PRESENT IN THE WATER AND IS GENERALLY NATURALLY OCCURRING.	NS
LIST OF ADDITIONAL CONSTITUENTS ANALYZED									
pH	2002	UNIT	NS		7.4	7.9	7.6	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NS
HARDNESS	2002	PPM	NS		223	302	253	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NS
HARDNESS	2002	GRAINS/GAL	NS		13	18	15	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NS

PARAMETER	DATE TESTED	UNITS	ACTION LEVEL	PHG (MCLG)	NUMBER OF SITES SAMPLED	HOUSEHOLD RESULTS 90 TH PERCENTILE	TYPICAL SOURCE OF CONTAMINANT	ACTION LEVEL EXCEEDED?
LEAD AND COPPER								
LEAD	6/03	PPB	15	2	32	12PPB	CORROSION OF HOUSEHOLD PLUMBING SYSTEMS	NO
COPPER	6/03	PPM	1.3	.17	32	.57PPM	CORROSION OF HOUSEHOLD PLUMBING SYSTEMS	NO

PARAMETER	DATE TESTED	UNITS	ACTION LEVEL	PHG (MCLG)	GROUNDWATER RANGE OF DETECTION			TYPICAL SOURCE OF CONTAMINATION	ACTION LEVEL EXCEEDED?
					LOW	HIGH	AVG.		
RADON QUARTERLY	2000	PCi/L	NS	NS	459	828	597	MANUFACTURING USE OF LUBRICATING OILS; FABRICS; DYES; RUBBER; PAINTS; FIREWORKS; AND CERTAIN FERTILIZERS	NS
PERCHLORATE ⁽³⁾	2003	PPB	4	NS	ND	3.0	ND		NO
CHROMIUM VI	2002	PPB	NS	NS	ND	4.0	1.8		NS
VANADIUM	2003	PPB	50	NS	ND	6.0	1		NO
BORON	2003	PPB	1000	NS	ND	100	32		NO

⁽¹⁾In August of 2001, one well had a test result over the PHG at 1ppb. Subsequent testing in April of 2004 was ND. The DLR for testing purposes is 1ppb. ⁽²⁾San Pedro Well: Initial sample taken after well development was 310 ppb, which was above the MCL however; a confirming sample taken was 120 ppb for a sample average of 215 ppb, which is below the MCL. ⁽³⁾The City of Morgan Hill tested all production wells on a monthly basis for Perchlorate in 2003, with a range of preliminary samples taken from 6 ppb to ND. Any well that exceeded the Action Level of 4 ppb on the preliminary sample was taken offline or modified, as in the case of Nordstrom Well, at which the City installed an Ion Exchange Treatment Plant to remove Perchlorate to below the Action Level. For more detailed information regarding tests and wells tested, please refer to the City of Morgan Hill website at www.morgan-hill.ca.gov.

TERMS & ABBREVIATIONS USED IN THE DATA TABLES									
Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHG's are set by the California Environmental Protection Agency.									
Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U. S. Environmental Protection Agency									
Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to PHG's or (MCLG's) as is economically and technologically feasible. Secondary MCL's are set to protect the odor, taste, and appearance of drinking water.									
Regulatory Action Level (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow									
grains per gallon: The measure of the concentration of a solution									
ton: A measure of the odor associated with water									
umho/cm: The measure of the dissolved inorganic salt content									
< Less Than									
Detection Limits for Purposes of Reporting (DLR): The analytical detection level of a contaminant at which the California Department of Health Services is confident about the quantification of the contaminant's presence in drinking water. Data are required to be submitted if detections are at or above the DLR.									
MFL: Million Fibers per Liter; with a fiber length greater than 10 micrometers									
n/a: not applicable									
nd: not detectable at testing limit									
ug/L: micrograms per liter									
mg/L: milligrams per liter									
ntu: Nephelometric Turbidity Unit									
ns: no standard									
ppb: parts per billion or micrograms per liter									
ppm: parts per million or milligrams per liter									
pCi/l: picocuries per liter (a measure of radiation)									

Contaminants that may be present in source water before we treat it:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides, which may come from a variety of sources such as agricultural and residential uses.

Radioactive contaminants, which are naturally occurring.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban runoff, and septic systems.

els of lead and copper; however, these metals may leach into the water from home plumbing.

In June of 1997 the City completed Lead and Copper testing from inside homes under the guidance of the Department of Health Services. Results showed that the Copper levels were below the Federal Action Level of 1300 parts per billion (ppb), and the Lead levels were below the Federal Action Level of 15 parts per billion (ppb).

The City is on a three year cycle for testing of Lead and Copper determined by the primary testing performed at the first inception of the Lead and Copper Rule. The City completed its tri-annual sampling in June of 2003.

Nitrates: Nitrates in drinking water at levels above 45 mg/l is a health risk for infants below the age of six months. High nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness. Symptoms include shortness of breath and blueness of the skin.

High nitrate levels may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. Nitrate levels may rise quickly in short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider, or choose to use bottled water for mixing formula and juice for your baby. If you are pregnant, you should drink bottled water.

The City's water supply is below the MCL for nitrates. The City performs an average of 15 separate tests per week for nitrates alone to ensure a safe water supply.

Unregulated Contaminants: The City proactively monitors for unregulated contaminants. This helps the EPA and the California Department of Health Services determine where certain contaminants occur, and whether the contaminants need to be regulated.

Radon: The City tested its source waters for radon on a quarterly basis in 2000. Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through ground and into a home through cracks and holes in the foundations. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities.

Compared to Radon entering the home through the soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause an increased risk of stomach cancer.

If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your State radon program, or call EPA's Radon Hotline. 1-800-SOS-RADON).

WATER SAMPLING AND TESTING:

THE ANNUAL water sampling required by the State Department of Health Services consists of Bacteria (520 samples), Nitrate (780 samples), Turbidity (52 samples), and Trihalomethanes (32 samples) for a total of 1,384 samples from the 40 separate sample stations and source facilities located throughout the City's water distribution system. The City averages between 40 to 50 Bacteria samples a month. In November of 2003, one of the samples was found to be positive for coliform bacteria but confirming samples were negative.

Monthly bacteria samples are also taken at the 13 water wells from which the community gets its water supply.

WATER SYSTEM IMPROVEMENTS

THE CITY'S water system consists of 13 production wells, 110 miles of water mains, 9 pumping stations, and 10 reservoirs. This complex, inter-related system requires 24-hour monitoring and an extensive program of ongoing maintenance. Additionally, a 5-year program of capital improvements must be constantly updated to plan and fund new capacity and the replacement of outdated infrastructure. Recent improvements to the City's water system include:

- Completed construction of Edmundson Reservoir and completed redesign of Boy's Ranch Reservoir
- Completed San Pedro Well and Main II Well pump Stations
- Completed installation of water main at E. Main and UPRR crossing
- Initiated installation of new SCADA system (this computerized monitoring of water reservoir levels and pumping equipment operations throughout the entire water supply system improves efficiency and reporting)
- Completed design for rehabilitation of Jackson Oaks Booster Station
- Completed preliminary design of 16" water main between Church St. and Del Monte Ave.
- Completed design and installation of water main feeding Jackson Oaks tank